

EVERGLADES AGRICULTURAL AREA

SUMMARY

MAP

Phosphorus Loading Trends

The Everglades Best Management Practices (BMP) Program (Rule 40-E, 63, Florida Administrative Code) for the Everglades Agricultural Area (EAA) requires that the EAA basin achieve a 25 percent reduction in total phosphorus (TP) load discharged to the Everglades. The reduction is determined by comparing phosphorus discharges at the end of each 12-month water year period (May 1 through April 30) with the pre-BMP base period of October 1, 1978, through September 30, 1988. The first full year of BMP implementation was water year 1996.

Rainfall recorded during the fourth quarter of 2000 was below the historical average (based on 30 years of data) for the EAA basin. Both November and December were extremely dry months with rainfall totaling 0.3 and 0.4 inches, respectively. Total rainfall for October was 5.8 inches which exceeded the historical average for the month. However, 95 percent of the total rainfall for the month was recorded during the first seven days of October when a subtropical disturbance passed through the area. Only 8.2 inches of rainfall were recorded in the EAA Basin during the fourth quarter of 2000.

During the fourth quarter, approximately 40,000 acre-feet of lake water entered the EAA canals through S351 and S354, combined. In contrast, approximately 184,000 acre-feet of water were discharged from the EAA to the Water Conservation Areas (WCAs) via pump stations S6, S7 and S8. Of this total, 154,000 acre-feet were released only in October 2000 as a result of the rainfall from the subtropical disturbance. Monthly total phosphorous loads from the EAA Basin for the fourth quarter varied with rainfall. More than 99 percent of the TP load for the quarter occurred in October. (**Figure 8**). The total load for the quarter was 55.5 metric tons, approximately 12 percent lower than the load for the corresponding quarter in 1999.

District pump stations S5A, S6, S7, S150, and S8 (see map) convey a majority of the water from the EAA to the WCAs. Total phosphorus loads and flows measured at these pump stations are presented in **Figure 9**. In addition, flow-weighted mean total

phosphorus concentrations in water released from these stations to the WCAs are presented in **Figure 10**.

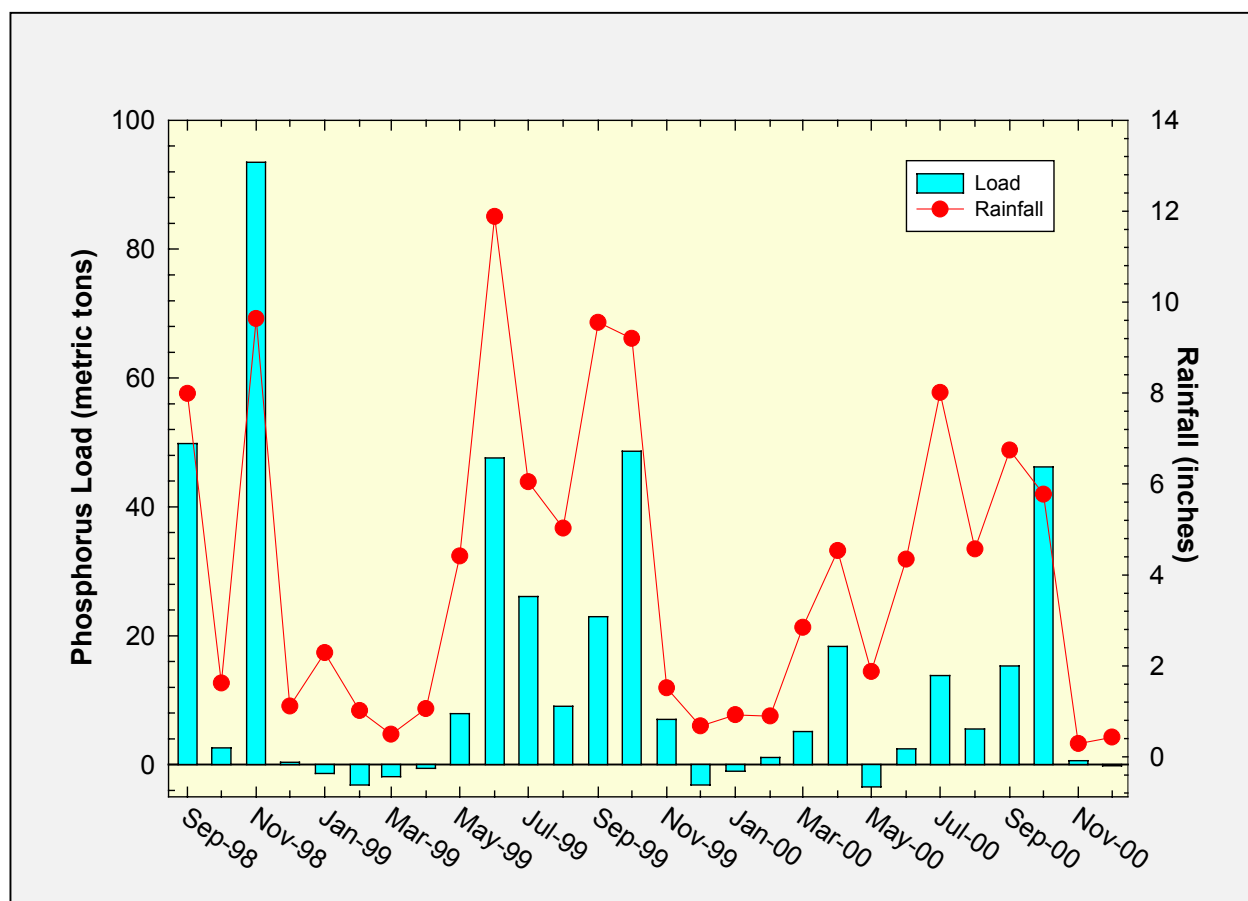


Figure 8. Monthly phosphorus loads calculated for the EAA Basin and monthly rainfall for the EAA.

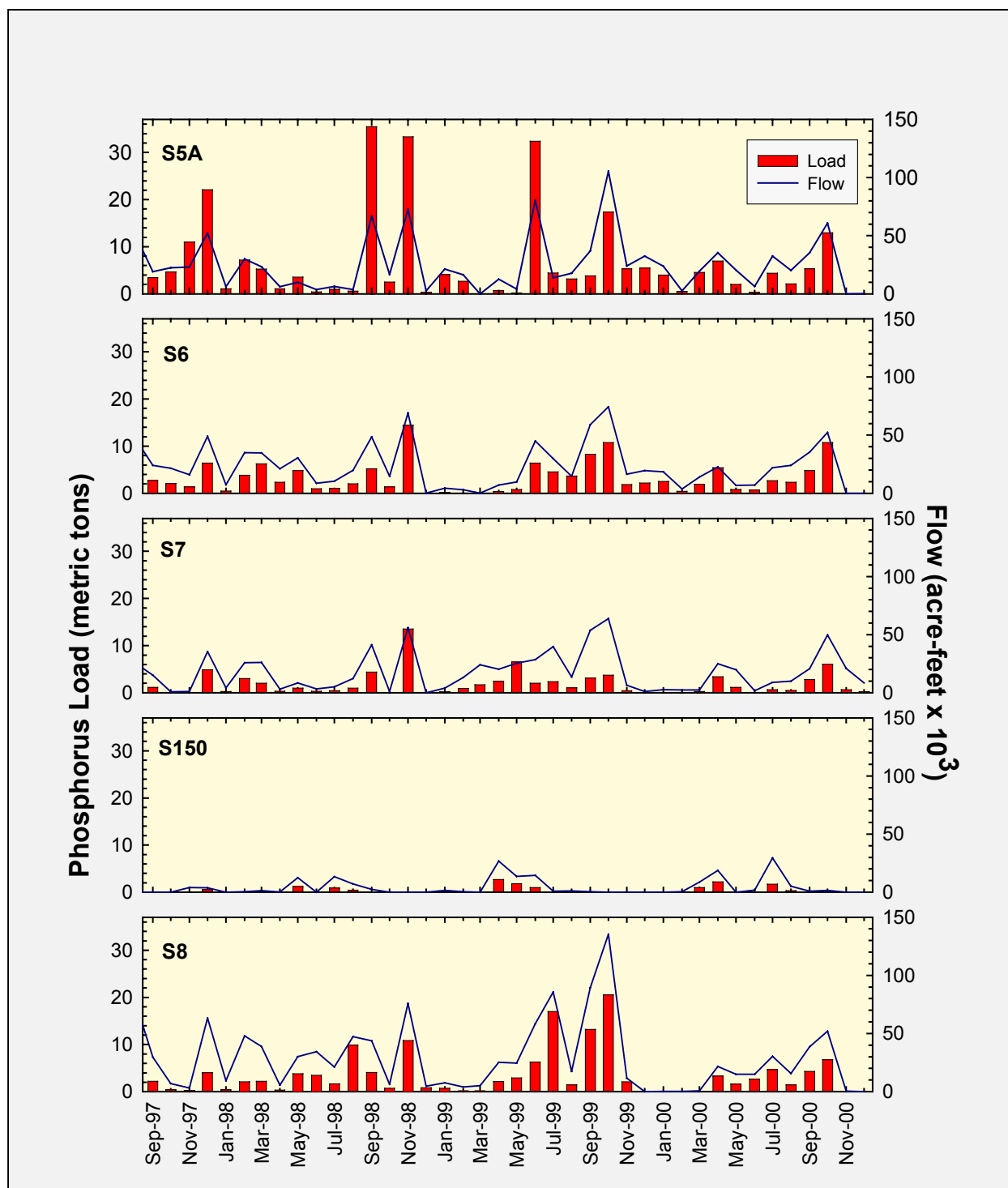


Figure 9. Monthly flows and calculated phosphorus loads at major EAA pump stations.

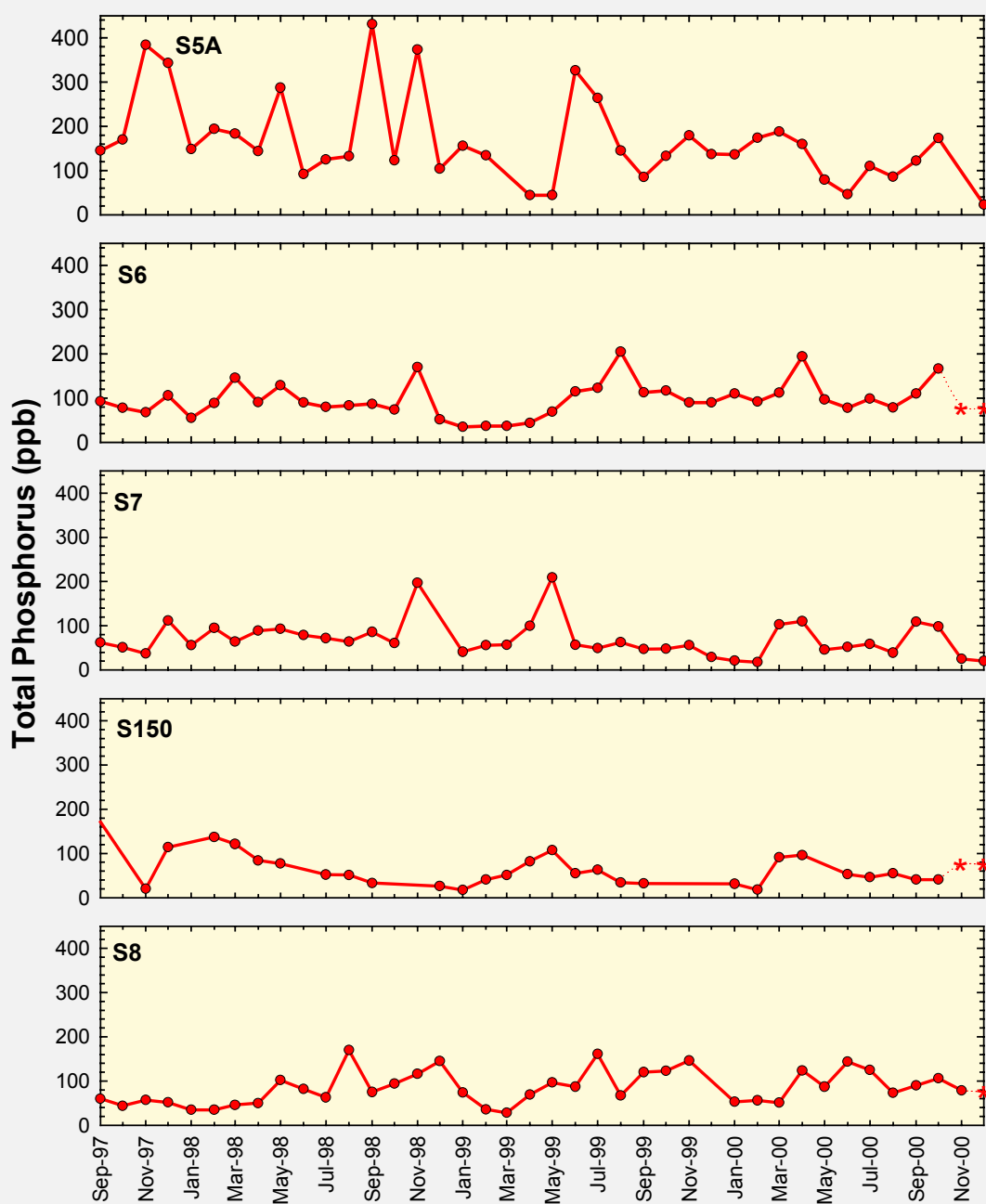


Figure 10. Monthly flow-weighted mean total phosphorus concentrations at major EAA pump stations (*flow-weighted mean can not be determined when flow is zero)

A summary of monthly flows measured at each structure during the third quarter of 2000 is presented in **Table 3**. Total phosphorus loads for each structure are summarized in **Table 4**. Flow-weighted mean total phosphorus concentrations are presented in **Table 5**.

Table 3. EAA Pump Station Flows
(k-acft)

	Oct-00	Nov-00	Dec-00
S5	60.8	0.0	35.3
S6	52.4	0.0	35.3
S7	49.7	20.9	20.7
S150	1.5	0.0	0.8
S8	51.9	0.4	38.7
Sum	216.3	21.3	130.8

Table 4. EAA Pump Station TP Loads
(metric tons/month)

	Oct-00	Nov-00	Dec-00
S5	13.0	0.0	6.3
S6	10.8	0.0	4.8
S7	6.0	0.6	2.8
S150	0.1	0.0	0.0
S8	6.8	0.0	4.3
Sum	36.6	0.7	18.2

Table 5. EAA Pump Station Flow-weighted Mean TP Concentrations (ppb)

	Oct-00	Nov-00	Dec-00
S5	173	---	23
S6	167	---	---
S7	98	25	20
S150	41	---	---
S8	106	79	---

Dashed lines in Table 5 indicate that flow-weighted TP concentrations cannot be determined when flow is zero.